

UNCLASSIFIED

AD NUMBER

AD828720

LIMITATION CHANGES

TO:

Approved for public release; distribution is unlimited.

FROM:

Distribution authorized to U.S. Gov't. agencies and their contractors;
Administrative/Operational Use; 13 NOV 1967.
Other requests shall be referred to Office of the Chief of Staff for Force Development (Army), Washington, DC 20310.

AUTHORITY

AGO ltr 29 Apr 1980

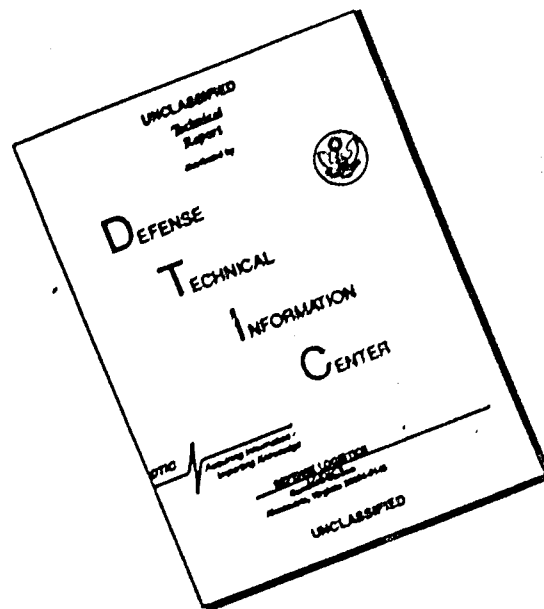
THIS PAGE IS UNCLASSIFIED

THIS REPORT HAS BEEN DELIMITED
AND CLEARED FOR PUBLIC RELEASE
UNDER DOD DIRECTIVE 5200.20 AND
NO RESTRICTIONS ARE IMPOSED UPON
ITS USE AND DISCLOSURE.

DISTRIBUTION STATEMENT A

APPROVED FOR PUBLIC RELEASE,
DISTRIBUTION UNLIMITED.

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.



FOR OFFICIAL USE ONLY

DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGAM-P (M) (5 Mar 68) FOR OT RD 674123

7 March 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 20th
Engineer Battalion (Combat), Period Ending 31 October 1967

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT RD, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

1 Incl
as

DISTRIBUTION

Commanding Generals

- US Continental Army Command
- US Army Combat Developments Command

Commandants

- US Army War College
- US Army Command and General Staff College
- US Army Adjutant General School
- US Army Air Defense School
- US Army Armor School
- US Army Artillery and Missile School
- US Army Aviation School
- US Army Chemical School
- US Army Civil Affairs School
- US Army Engineer School
- US Army Infantry School
- US Army Intelligence School

Protective marking cancelled when
separated from Inclosure.

FOR OFFICIAL USE ONLY

33

DISTRIBUTION (Cont'd)

US Army Medical Field Service School
 US Army Military Police School
 US Army Missile and Munitions School
 US Army Ordnance School
 US Army Quartermaster School
 US Army Security Agency School
 US Army Signal School
 US Army Southeastern Signal School
 US Army Special Warfare School
 US Army Transportation School

Copies furnished:

Office, Chief of Staff, US Army
 Deputy Chiefs of Staff
 Chief of Engineers
 Chief of Research and Development
 Assistant Chiefs of Staff
 The Surgeon General
 The Provost Marshal General
 Research Analysis Corporation (Library)
 Defense Documentation Center
 Planning Research Corporation
 Director, Weapons Systems Evaluation Group
 CG, US Army Weapons Command
 CO, 20th Engineer Battalion (Cbt)

| | |
|---|---|
| W. I. C. SECTION <input type="checkbox"/> | |
| DRY SECTION <input checked="" type="checkbox"/> | |
| TEST <input type="checkbox"/> | |
| LOG <input type="checkbox"/> | |
| STATIONER <input type="checkbox"/> | |
| REGISTRATION <input type="checkbox"/> | |
| DISTRIBUTION/AVAILABILITY CODES | |
| DIST. <input type="checkbox"/> | ANAL. COM/OF SPECIAL <input type="checkbox"/> |
| 2 | |

FOR OFFICIAL USE ONLY

3

DEPARTMENT OF THE ARMY
HEADQUARTERS, 20TH ENGINEER BATTALION (CBT)
APO 96318

EGCALOP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR 65), for Quarter
Period Ending 31 October 1967

NRU: Commanding Officer
937th Engineer Group (Cbt.)
APO 96318

Commanding General
18th Engineer Brigade
APO 96377

Commanding General
U. S. Army Engineer Command, Vietnam (Prov)
APO 96375

Commanding General
United States Army, Vietnam
ATTN: AVHGC-DH
APO 96307

Commander in Chief
United States Army, Pacific
ATTN: GPOP-OT
APO 96558

TO: Assistant Chief of Staff for Force Development
Department of the Army (ACSFOR DA)
Washington, D. C. 20310

Section I. Significant Organization or Unit Activities:

1. General:

a. At the beginning of the report period, the Battalion Headquarters, Headquarters Company, Company B, Company D, and the 584th Engineer Company (IE) were located in the 4th Division's Camp Enari Base Camp, Pleiku, Republic of Viet Nam. 584th Engineer Company (IE) was involved in Quarry operations at Danner Quarry (ZA075311) and on 15 October resumed the paving of 4th Division Camp Enari Base Camp interior roads. This project had been discontinued.

PROTECTIVE MARKING CANCELLED
1 January 1970

FOR OTAS
674123

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

4

EGGA-OP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSJRL-55), for Quarterly Period Ending 31 October 1967

since 25 June due to the monsoon season. Company B was involved in the construction of a 177' x 192' Aircraft Maintenance Hangar. During the reporting period, the earthwork was completed, footers were poured, and erection was completed, except for approximately 10% of the siding. Company D was involved in general Base Camp Construction which included the AFRT Radio Station, 40' x 130' NCO Club, and numerous other projects.

b. The monsoon rains prevented Company A from completing the site of Due Co Airfield (YA8425). The maintenance of Highways QL-19W and QL-19E was carried on throughout the monsoon season. On or about 15 August, Company A assumed the repair and maintenance responsibility for a 600 meter impassable section of the interior road net through Jackson's Hole (YA8931, CP, 1st Brigade, 4th Infantry Division). The project involved ditching, draining and shaping the 600 meters of road before placing the necessary quantity of crushed rock. The road work was done mostly by hand during heavy rain. On or about 20 August, the impassable section of the road was opened for traffic, allowing desperately needed 4th Division supply vehicles into Jackson Hole. From 15 August to 20 September, Company A hauled and placed 2,000 cu yds of 4" (-) crushed rock on the aforementioned stretch of road.

c. At the beginning of the report period, Company C was located at Danner Quarry (ZA075311) and was responsible for maintenance of QL-19W from YA9829 to AR7838. On 3 August and again on 15 September, the Bailey Bridge at ZA099299 (120' DD) collapsed under a combination load of a VTR and M48A1 tank and a VTR respectively. Company C diverted its effort to repairing an existing bypass at the bridge site, and supporting the 509th Pannel Bridge Company in replacing the destroyed bridge. On 3 August, the 584th Engineer Company (IE) assumed responsibility for the portion of QL-19W (MSR) from the bridge site, East to Camp Enari. This MSR mission was assigned the Light Equipment Company, while C/20 was engaged in repairing the bridge. 584th IE Company retained the MSR maintenance responsibility until 26 September 1967.

d. On 19 August, Company C and the 584th Company (IE) moved from Danner Quarry to Woolly Billy Quarry (ZA057314). The new bivouac site was prepared by 1st Platoon, Company C. During the move the crusher was deadlined for four days.

e. On 22 September, Company C and Company D exchanged tasks and locations. Company C took over Company D's Base Camp projects and Company D assumed responsibility for a portion of QL-19W. Among Company C's projects was the construction of 88 helicopter revetments for the 7/17th Air Cavalry Squadron scheduled to arrive in RVN on 23 October. A 20 October deadline for this project was established, and met with no great difficulty.

(Page 2)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCA-OP

13 November 1967

SUBJECT: Operational Report -- Lessons Learned (RCS CSFR-65), for Quarterly Period Ending 31 October 1967

f. With the shift of the 1st Brigade, 4th Infantry Division from Jackson Hole, to the Oasis, 2410Z, Company A moved one platoon to Woolly Bully Quarry on 17 September to prepare a Company sized bivouac area. Co. A relocated to Base Camp on 21 September and assumed several small projects. On 21 October 1967, Company A opened its CP at the Woolly Bully Quarry, assumed the mission of MSR maintenance and upgrading of QL-19W from the west to Duc Co (YA8425).

g. The 35th Engineer Platoon (Land Clearing) was attached to 20th Engineer Battalion and closed Camp Enari Base Camp 19 August. During the next week the first and second squads were supporting the 70th and 299th Engineer Battalions respectively. The third squad remained attached for Land Clearing operations to 20th Engineer Battalion for work on the AO. The third squad began a clearing operation on QL-19W vicinity of the Woolly Bully Quarry on 25 August. The third squad completed clearing 457 acres around the Quarry area on 7 September, and was re-assigned to the 70th Engineer Battalion for clearing operations on QL-19E. This squad returned to OPCON of 20th Engineer Battalion on 26 September after completing 259 acres of clearing for 70th Engineer Battalion. From 2 through 22 October, 595 acres were cleared by the third squad on QL-14S and 2,397 acres on TL-6J. At the end of the reporting period this squad is clearing QL-14B, while the first platoon of Company A upgrades the road. As of 24 October, the second squad of the 35th Engineer Platoon (Land Clearing) was re-assigned from the 70th Engineer Battalion to this Battalion for work at the Edap Brang resettlement village, ZA0331.

h. As of 31 October, Companies A, D, and the Quarry Platoon of 504th Company (IE) were located at Woolly Bully Quarry (ZA057314). The remainder of the 20th Engineer Battalion was located at Camp Enari Base Camp.

Projects presently under Construction include:

- (1) Crusher and Quarry Operations, 85-937/V-66.
- (2) Operational Requirements, 50-937/V-67.
- (3) LOC Restoration and Maintenance, CD 98-200-15-T-JA.
- (4) Helicopter Pavements, Camp Enari, 49-937/V-67.
- (5) 4th Division Interior Road Paving and Support, OICC P-815/07.
- (6) Rotary Wing Aircraft Hangar, CD 63-215-03-T-6S.
- (7) AFRT Radio Station, CD 63-223-04-T-6S.
- (8) 4th Division Access Road, OICC-Q-458.

(Page 3)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCA.OP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CEFOR-65), for Quarterly Period Ending 31 October 1967

(9) Water Pump Station and Pipeline, CD 66-251DC-937.

(10) Water Well Fill Point, Catecka, 32-937/V-66.

2. Personnel:

a. At the beginning of the report period, the 20th Engineer Battalion with the 584th Engineer Company (IE) attached, had an assigned strength of 41 Officers, 3 Warrant Officers, and 880 Enlisted Personnel.

b. In August, senior NCO replacements were in short supply. By the end of October, however, most NCO vacancies were filled. A Battalion Maintenance Officer was assigned in October. The position of Battalion Personnel Officer has been unfilled for the past four months.

c. At the close of the report period, the assigned strength of the 20th Engineer Battalion (Cbt), and the attached 584th Engineer Company (IE), and the 35th Engineer Platoon (Land Clearing) was as follows:

| UNIT | OFFICERS | W. O. | E. M. |
|-------------------------------|----------|-------|-------|
| 20th Engr Bn (Cbt) | 36 | 2 | 716 |
| 584th Engr Co (IE) | 4 | 1 | 184 |
| 35th Engr Plt (Land Clearing) | 1 | 0 | 57 |
| ASSIGNED TOTAL | 41 | 3 | 957 |

d. During the report period the Bn suffered 0 KIA and 9 WIA. Personnel of the Battalion have been recipients of one Silver Star Medal, 1 Bronze Star for Valor, 16 Army Commendations with "V" device, 17 Bronze Star Medals for meritorious service, 2 Air Medals and 11 Army Commendation Medals.

e. On 31 October, the Battalion was employing 28 quarry workers, 49 civilian carpenters (MCA) and 40 tire repairmen, supervisors, kitchen police, etc., (O&MA). In addition, an average of 120 AIC laborers were utilized daily by the Battalion.

f. In October, the Finance Section of the Battalion with three finance clerks, relocated to 126th Finance Section at Camp Schmidt, Pleiku, Republic of Viet Nam. The purpose of this move was to centralize the finance activities of the 937th Engineer Group and other units in, and near, the city of Pleiku.

(Page 4)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCA OP

SUBJECT: Operational Report - Lessons Learned (RCS USFOR.65), for Quarterly Period Ending 31 October 1967 13 November 1967

g. The Battalion Chaplain has made religious services available to all men of the Battalion. Catholic services are held three times per week. The average weekly attendance of Catholic and Protestant, combined has been 375. The men of the Jewish faith have attended one retreat and have had one service per month. Bible study classes are held weekly. The Base has a choir for their service which practices each week. On Sunday fellowship service is held. This consists of showing a religious film, singing of hymns, and serving of refreshments.

3. Intelligence & Security:

a. During the reporting period the Battalion Intelligence Section continued to maintain contact with major units in the Pleiku area to obtain current combat engineer intelligence. Coordination was closely maintained with the 4th Engineer Battalion to eliminate a duplication of effort on reconnaissance missions. Several joint recons were made and the intelligence sections frequently exchanged information regarding intelligence gathered in the AO.

b. In a program dating back to a 19 April 1967 OPLAN, the Battalion has been integrated into the 4th Infantry Division's Civil Affairs Village Visitation Program. The intelligence section has been assigned the responsibility of providing a team to visit the designated villages and to submit periodic progress reports to the S-5, 1st Brigade, 4th Infantry Division. The team leader of the Visitation Team is provided by the S-2 section with the other members and transportation being provided by the line companies of 20th Engineer Battalion. The mission of this program is three fold: (1) To win the hearts and minds of the people; (2) to improve their standard of living economically and medically; and (3) to collect information of intelligence value. The program has also shown a fourth and very valuable asset; soldiers participating in the program have learned much about the local people and their difficulties.

c. With an increase of mining incidents during the last month of the report period, the Battalion S-2 section has embarked upon a data collection and correlation program on all mining incidents. Preliminary results, based upon thus far incomplete data, have indicated that it may become possible to predict with some degree of accuracy the most likely dates and places where mining incidents on Highway QL-19W will occur. The data considered thus far in the project includes:

- (1) Location of mine.
- (2) Number and types of mines.
- (3) Date when found.

(Page 5)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCA_OP
 SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly
 Period Ending 31 October 1967

13 November 1967

- (4) Pattern of mines.
- (5) Weather during period where mines were found.
- (6) Lunar cycle.
- (7) Density of military and civilian traffic.
- (8) Trafficability of area involved.
- (9) Type of roadway and surface conditions.
- (10) Use and frequency of patrols and H&I fires in areas concerned.
- (11) Period (day or night) when mines were planted.

d. The existing Camp Enari OPLAN commits the Battalion to furnish guards to 10 bunkers on perimeter defense. This requirement is fulfilled by providing one officer or NCO (E-7 or above) and 32 enlisted men daily from 1500 hours to 0900 hours the following morning.

4. Operations and Training:

a. Company A (-), one platoon, spent one month during the report period in Base Camp. The remainder of the period Company A was engaged in MSR maintenance and upgrading. Elements of Company B remained in Base Camp during the entire report period, however, two platoons of the Company deployed on an operational support mission from 11 October to 19 October. Company C and Company D each spent half of the period in Base Camp and the remainder in the field.

b. In order to have the earlier buildings constructed on Camp Enari accepted by the Post Engineer, this Battalion was required to correct known structural and electrical building deficiencies. During this period 131 buildings were completely wired and the structural deficiencies on 359 buildings were corrected by an R&U electrical team of 1 Specialist Fifth Class and 5 EM and one 10 EM Carpenter Team.

c. During this report period, the 4th Division has continued its active Self-Help buildings Program. The Battalion Prefab Yard has produced in the report period, 85 buildings (20' x 80') with 49 indigenous carpenters supervised by 5 EM. Total square footage of facilities provided the 4th Infantry Division and supporting units during this period are:

- (1) 2,600 sq ft of Mess Halls.
- (2) 4,000 sq ft of Administrative facilities.

(Page 6)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly
Period Ending 31 October 1967

13 November 1967

- (3) 65,200 sq ft of Troop Housing.
- (4) 9,600 sq ft of Community facilities.
- (5) 4,480 sq ft of Maintenance facilities.
- (6) 55,850 sq ft of Mortar Bunkers.

d. In addition to the Self-Help achievements of the 4th Infantry Division, units of the 20th Engineer Battalion have constructed:

- (1) 1 each 40' x 120' NCO Club.
- (2) 2 each 26' x 65' Maintenance buildings.
- (3) 2 each 26' x 52' Maintenance buildings.
- (4) 1 each 26' x 78' Maintenance building.
- (5) 1 each 20' x 30' Ice Cream Plant.
- (6) 1 each 20' x 100' Troop Billet.
- (7) 1 each 20' x 20' Airfield Control Tower.
- (8) 1 each 24' x 40' Transmitter Building.
- (9) 1 each 20' x 40' Generator Shed.
- (10) 1 each 177' x 192' Aircraft Hangar (under construction)
- (11) 1 each 80' x 150' Service Club (under construction.)
- (12) 1 each 24' x 60' Chapel (under construction)

e. Pads poured:

- (1) 1 each 40' x 120'
- (2) 1 each 2' x 118' x 1.5' (Hangar footers)
- (3) 1 each 21' x 87' x 9" (Hangar footers)
- (4) 1 each 175' x 2' x 1.5' (Hangar footers)
- (5) 1 each 135' x 2' x 1.5' (Hangar footers)

(Page 7)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCALOP

23 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967,

- (6) 2 each 26' x 65'
- (7) 1 each 26' x 78'
- (8) 1 each 26' x 52'
- (9) 2 each 18' x 88'
- (10) 1 each 24' x 60'
- (11) 1 each 24' x 40'
- (12) 1 each 20' x 60'
- (13) 1 each 20' x 40'
- (14) 1 each 20' x 30'
- (15) 1 each 10' x 20'
- (16) 2 each 20' x 48'
- (17) 1 each 15' x 40'

5. Operational Support Missions:

a. On 1 August seasonal rains hampered the effective completion of the Duc Co Airfield (YA8425), and Company A diverted its efforts to the maintenance of QL-14B.

b. On 4 August, Company C reported that the Bailey Bridge at ZA099297 had collapsed under the load of an M-88 tank retriever towing an M-48 tank. Company C was immediately diverted from its MSR maintenance mission to removing the damaged bridge, and rehabilitating the existing bypass. The bypass opened with a fair weather capability on 5 August. The two hundred meter bypass required the cutting, hauling and placing of 25 meters of corduroy and hauling and placing 300 meters of rock. On 6 August, the 509th Pannol Bridge Company completed emplacement of a 120' Double-Double Bailey Bridge and the roadway was again opened to normal traffic.

c. On 12 August, the maintenance of QL-194 became critical due to heavy seasonal rains. The 584th Company (IE) was committed to maintain 13 kilometers of QL-19W from Camp Enari to the western boundary of the Catoeka Tea Plantation (ZA154326) and placement of crushed rock on critical portions of roadway.

(Page 8)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCALOP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

- d. On 15 August, word was received that prop-wash from a CH-47 helicopter had displaced 480 linear feet of MX-19 runway at Polei Djereng Airfield, (YA8545). On 16 August the second and third platoons of Company B were air lifted to Polei Djereng. By 17 August 30,000 square feet of matting had been re-aligned and reconnected when another CH-47 displaced an additional 435 linear feet of runway. On 18 August a field expedition anchorage system, consisting of 36" "U" shaped pickets and #9 tie wire, flown in and re-alignment and anchorage were completed on 19 August. platoons had returned to Camp Enari by 20 August.
- e. On 17 August, the 75 TPH Crusher of the 584th Engineer Company (1E) was deadlined for the move to a new quarry site.
- f. On 19 August, the 584th Company Crusher platoon and Company C moved from Danner Quarry (ZA077312) to Woolly Bully Quarry (ZA057315). The 35th Engineer Platoon (Land Clearing) closed Camp Enari with subsequent attachment to 20th Engineer Battalion, VOCO 937th Engineer Group.
- g. On 21 August, the 584th Company's crusher was back in operation and the first squad of the Land Clearing platoon departed for Land Clearing on Hwy QL-19E, OPCON 299th Engineer Battalion (Cbt).
- h. On 22 August, the second platoon of Company C returned to Base Camp from Woolly Bully Quarry (ZA057315) to begin construction of an aircraft control tower for the 4th Aviation Battalion, 4th Infantry Division.
- i. On 23 August, the second squad of the Land Clearing platoon departed for Land Clearing operations on QL-19E, OPCON 70th Engineer Battalion (Cbt). The second platoon of Company B replaced the first platoon of Company B at Ban Blech, and continued the mission of airfield maintenance. To date, first platoon had completed upgrading of the bridge at AQ974600 and renovated the access road from Hwy 14 to the Ban Blech Airfield Complex.
- j. On 25 August, the third squad of the Land Clearing Platoon closed Woolly Bully Quarry (ZA057315) for Land Clearing operations on QL-19W. Security was furnished by three Armored Personnel Carrier's from the First Squadron Tenth Cavalry Regiment.
- k. On 26 August, one squad from the first platoon of Company A was airlifted to Polei Djereng (YA8545) to provide General Engineer Support to the 5th Special Force. Their mission included the repair of the airfield access road, improve the airfield drainage, and general firebase construction. Also, on this date Company A received the mission to repair the interior road net at Jackson Hole, Forward Command Post of the First Brigade, 4th Infantry Division, which had become impassable due to heavy seasonal rains. The First Brigade's organic Engineer element responsible for the interior MSR did not

(Page 9)

FOR OFFICIAL USE ONLY

12

FOR OFFICIAL USE ONLY

EGCA.OP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

possess the resources for the project, and the 20th Engineer Battalion assisted the mission. The initial phase of the operation consisted of reopening the drainage systems, installing new drainage structures, and cutting new drainage ditches. Most of this work was accomplished by hand. All standing water was removed from the roadway and adjacent areas. This was a continuous project as heavy rains continued to fall throughout the operation. The second phase consisted of removing two to three feet of mud from the roadway, depositing it outside of the ditchline, and restoring an exaggerated crown to the roadway. Phase three consisted of placing a 4 to 8 inch lift of crushed rock on the traveled way. During the entire operation, a total of 1,500 cubic yards of crushed rock was placed on the road. The final phase of the operation consisted of maintenance and traffic control, which was necessary until the company departed Jackson Hole. The overall mission was a great success and the MBR remained passable throughout the remaining monsoon season.

l. On 5 September, the second platoon of Company B had completed repairs on Ban Blech runway (AQ9861) and returned to Camp Enari.

m. On 7 September, the third squad of the Land Clearing platoon completed clearing 457 acres on QL-19W and departed Woolly Bully Quarry, (ZA057315) for Land Clearing operations with the 70th Engineer Battalion on QL-19E.

n. On 11 September, Company C began anchoring MX-19 matting on Oasis Airfield (ZA1027). This project was undertaken due to the problems encountered with the matting on Polei Djoreng Airfield.

o. On 15 September, Company C informed this headquarters that the Bailey Bridge at ZA099299 had collapsed at 1830 hours under the load of an M-88 tank retriever. Company C immediately began improving the existing bypass. The bypass was opened at 2345 hours and work had already begun on removal of the damaged bridge. The damaged bridge was removed by 161830 September and construction was begun on a Bailey Bridge. The bridge was open to normal traffic on the morning of the 17th.

p. On 17 September, the first platoon of Company A moved from Jackson Hole (YA897314) to Woolly Bully Quarry to prepare for the eventual relocation of Company A to that location. The first platoon began salvage operations of the damaged Bailey Bridge, to identify usable parts and return to depot stocks.

q. On 21 September, Company A departed Jackson Hole and closed Camp Enari. Company A began several small base camp projects which continued until their bivouac was prepared at Woolly Bully Quarry. On this date the supplementary tie down system for the MX-19 matting of Oasis Airfield was completed by Company C.

(Page 10)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCA.OP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

r. On 22 September, Company C moved from Woolly Bully Quarry to Camp Enari and Company D (-) moved from Camp Enari to Woolly Bully Quarry. Company C assumed responsibility for Company D's Base Camp projects and Company D assumed responsibility for maintenance of QL-19W. The second platoon Company D remained in Base Camp and continued operation of the Battalion prefab yard and concrete batch plant.

s. On 26 September, the 584th Company (IE) was released from the responsibility on QL-19W in preparation for the resumption of Base Camp projects. Also, the third squad of the Land Clearing platoon returned to Camp Enari and resumed clearing along QL-19W. Clearing operations were scheduled from RJ 14 & QL-19W to the Catecka Tea Plantation on QL-19W.

t. On 1 October, the third squad of the Land Clearing platoon completed clearing 259 acres on QL-19W and began work on QL-14S from RJ 14-12 to RJ 14-6C. Security was furnished by a tank platoon (-) from the First Squadron, 69th Armor.

u. On 9 October, the third squad completed clearing from RJ 14-19W to RJ 14-6C. The next mission was Land Clearing operations from RJ 14-6C to the Plei Ma Special Forces Camp. A platoon (-) from the First Squadron, 10 Cavalry and a tank platoon from the First Battalion, 69th Armor provided security for the operation. During the operation two graders were attached to the Land Clearing section to shape and ditch the roadway. Work was accomplished concurrently with Land Clearing Operations.

v. On 11 October, Company B's CP and its second platoon, reinforced with earth moving equipment from the Battalion equipment platoon, moved to Plei Do Lam village (AQ974600) to begin upgrading of Route LTL-7B from Plei Do Lam village south-east to BR022020. The scope of the work involved upgrading the roadway from fair-weather to limited all-weather capability and repair of a bridge at BR024019. This was an operational support mission in general support of 4th Infantry Division OPLAN MIDDLETON.

w. On 13 October, the first platoon (-) of Company B moved to Phu Tuc Airfield to repair the T-17 runway that was ripped open by C-130 prop-wash. Scope of the work involved the patching of a large number of holes and tears in the membrane, and soil cement stabilization of several large soft spots in the runway subgrade.

x. On 14 October, 1/1/A/ 20, supporting the OMEGA Force at Polei Djereng, returned to Camp Enari. Original scope of work was reported as 100% complete.

y. On 20 October, Company B's CP and its second platoon returned from LTL-7B MSR upgrading and Bridge Repairs were reported as 100% complete. During

(Page 11)

FOR OFFICIAL USE ONLY

14

FOR OFFICIAL USE ONLY

EGCA-OP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

the mission, 3,170 cubic yards of laterite and 507 cubic yards of crushed rock were placed on roadway, 10 kilometers of roadway were graded, 32 kilometers of ditchline were dug, one culvert was emplaced, and the treadway on the bridge at BR024019 was replaced.

z. On 21 October, Company A (-) established Company CP at the Bully Quarry. On this same date, the second squad of Land Clearing returned to Camp Enari, having completed Land Clearing operations with 70th Engineer Battalion on Hwy 19E.

aa. On 22 October, the first squad of the Land Clearing platoon completed clearing operations on TL-6C. Total Land Cleared was 2,397 acres. Company C (-) departed Camp Enari and established bivouac area and Command Post at AQ865943 in preparation for MSR upgrading on QL-14S. Company C (-) deployment was in support of the 4th Infantry Division's Operation MACARTHUR.

bb. On 24 October, the first platoon of Company A and the third squad of the Land Clearing platoon departed Woolly Bully Quarry for Jackson Hole. The overall mission was to clear a 100 meter strip on either side of the MSR upgrade Hwy 14B, and construct a parallel tank trail from Jackson Hole (YA897915) to Polei Djereng (YA8545). To accomplish their mission 2 graders, 3 dozers, 1 290M with scraper, 1 water distributor, and 1 sheepsfoot roller were attached. Security was furnished by one platoon from the First Squadron, Tenth Armored Cavalry Regiment. Also on this date, the second squad of the Land Clearing platoon departed Camp Enari for Woolly Bully Quarry to begin clearing farm land around the Edap Enang resettlement village (ZA031312). Scope of work was to clear approximately 2,000 acres for cultivation.

cc. On 25 October, Company C (-) departed bivouac at AQ865943 and returned to Camp Enari. MSR maintenance in support of Operation MACARTHUR was reported as 100% complete. 1/C/20 redeployed to Ban Bloch (AQ9861) to begin work on upgrading the existing airfield and to provide general engineer support to CP 2nd Bde, 4th Infantry Division.

dd. On 28 October, the first platoon of Company B returned to Base Camp having completed repair of T-17 membrane at Phu Tuc Airfield.

ee. The most important operational support mission of this Battalion has been the maintenance of the 4th Division's QL-19W LOC from Camp Enari west to Duc Co, and Hwy 14B from ~~Camp Enari~~ to Jackson Hole. Maintenance of this 55 kilometers of roadway during the monsoon season consisted of 150 kilometers of grading, 52 kilometers of ditching, 10,000 cubic yards of crushed rock, 10,000 cubic yards of laterite, and the emplacement of 16 culverts. This project required the efforts of at least two companies during the entire report period.

(Page 12)

FOR OFFICIAL USE ONLY

15

FOR OFFICIAL USE ONLY

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), 13 November 1967
Period Ending 31 October 1967

6. Training:

a. The Battalions basic 2 hours per week mandatory training supplemented by an ambitious on-the-job training program, a driver training program, and special courses conducted by higher headquarters.

b. During this report period this Battalion has begun an operator training course consisting of the following instructions:

(1) One day of classroom instruction of safety, operator's maintenance, RVN law and international road signs, log book forms (TEARS), and the use of various TM's, LO's and the DA form 2404.

(2) One day of practical exercise on operators maintenance, serviceability criteria, maintenance check points and preventive maintenance indicators.

(3) One day of OJT driving in RVN accompanied by an experienced operator.

(4) On the final day the operator is given a road test and written examination.

7. Supply:

a. During this report period, the Battalion decreased its Class IV construction material receipts and issues as compared to the previous reporting period. The following quantities of basic construction materials were placed on requisition in support of approved construction projects.

Cement: 20,426 BGS Lumber: 1,044,489 BF Nails: 25,411 LBS

b. In addition, the following specific materials were received and issued for base development at Camp Enari and for operational support within the 4th Infantry Division Area of Operations.

| <u>ITEM</u> | <u>RECEIVED</u> | <u>ISSUED</u> |
|-------------|-----------------|---------------|
| 1x6x RL | 194,120 BF | 211,480 BF |
| 1x8x RL | 57,840 BF | 326,160 BF |
| 2x4x RL | 1,160,006 BF | 555,268 BF |
| 6x6x RL | 96,352 BF | 98,734 BF |
| 6x8x RL | 42,840 BF | 49,512 BF |
| 8x8x RL | 22,187 BF | 46,027 BF |

Construction of personnel bunkers and towers necessitated the requisition.

(Page 13)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR -65), for Quarterly Period Ending 31 October 1967

tioning of large amounts of timber. Though not finished, due to the shortage of these timbers, the project is approximately 90% complete.

c. During the months of August and September, the Battalion's lumber yard became impassable due to the amount of rain received and the heavy of traffic. D7 tractors were utilized to pull vehicles in and out of to facilitate loading and unloading operations. The only material handling equipment able to maneuver in the yard was the 20 ton rough terrain crane. Holes and ruts up to three and four deep were experienced and slowed down operations considerably.

d. Barrel hooks were fabricated allowing the crane to swing four 55 gallon drums in one pass. This allowed for the rapid unloading of 5,310 drums of penneprimo received during this period in anticipation of the dust which is due to follow the monsoon.

e. Major repairs of the existing T-17 membrane airstrip at Ban Bloch and upgrading of the 6 km's of access road from Route 14S to the airfield, necessitated moving vast quantities of POL, rations, T-17 membrane, T-17 adhesive, and other supplies from Camp Enari to Ban Bloch, RVN. Cement for soil stabilization and compaction equipment to include sheepsfoot and 13 wheel rollers were also included. During the period 1 August 67 to 5 September 67, over 75,000 pounds of equipment and supplies were airlifted to construction sites by CH-47 helicopters.

f. The Battalion water point teams continued their support of combat operations and Camp Enari. During this reporting period the two operational water points produced a total of 1,553,467 gallons of potable water. The water point located at Camp Enari produced a daily average of 15,043 gallons of potable water. Non-availability of repair parts deadlined two other 1,500 GPH water purification sets during this reporting period. Some difficulty was experienced with the 10 KW Kurtz-Moot generator.

8. Medical:

a. During the quarter 2,414 out patients and 54 quarters patients were treated in the Battalion Aid Station.

b. Periodic checks of personnel shot records are carried out both in the Battalion Base Camp and in the field in order to maintain a suspense file on immunizations that is up to date and insure adequate and timely immunizations of all personnel.

c. A command letter was put out in August 1967, establishing a standard procedure for the calling of Air Medical Evacuation. This insures that the

(Page 14)

FOR OFFICIAL USE ONLY

17

FOR OFFICIAL USE ONLY

EGCA-OP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

Battalion Surgeon is notified of the need for a Dust-Off and precludes the use of Dust-Off in cases that do not warrant an immediate evacuation.

d. Through the activities of the Battalion Civil Affairs near-by villages, the Battalion Surgeon has reported that the vill now more receptive to the idea of leaving their villages and coming Battalion Aid Station for emergency medical treatment. A great step in this Battalion's Civic Action program!

9. Communications:

a. During this period it has been noted that AN/PRC-25 Radio sets were being turned in with the internal parts corroded. Corrosion had been caused by water seeping into the sets. It was found this situation could easily be corrected by the unit radio mechanic making periodic checks of the internal parts of the sets and by the operators checking the casing screws for tightness.

b. Another important factor noted during this period was the fact that antenna elements were rusting together because of lack of maintenance. This situation was easily taken care of by periodically taking all antenna sections apart and lubricating them.

c. It was also noted that radio sets that initially were in perfect working condition, were inoperative after being transported to the using units. This situation was remedied by packing the sets in crates or wrapping them in material to cushion them against sudden shocks which could knock them out of adjustment.

d. All personnel concerned were notified of the above and to take caution in handling signal equipment.

10. Maintenance:

a. Supply of repair parts continues to remain the major problem in this field. Direct exchange items such as generators, voltage regulators, brake cylinders, and brake shoes for all types of vehicles remain in short supply. In many instances, items placed on Red Ball requisition have taken longer to receive than the same item requisitioned for PLL replacement on the standard priority. Lack of these repair parts in all echelons of maintenance has been a major cause of excessively high deadline rates.

b. During the monsoon season it was found that proper lubrication was difficult because of caked mud in and around fittings. As a result grease could not be properly injected and fitting became jammed and had to be replaced.

(Page 15)

FOR OFFICIAL USE ONLY

18

FOR OFFICIAL USE ONLY

EGCA-OP

13 November 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

For this season a 55 gallon drum and hand pumped fire extinguisher were made available at all lubrication points to clean grease fittings. This program has reduced lubrication problems significantly.

c. The most critical maintenance shortages reported by the Engineer Company (IE) was the non-availability of the 17 foot hydrant used to connect the 18 cubic yard scraper to the D7E tractor. This resulted in the deadline of five scrapers for nearly a year.

Section II, Part I Observation's (Lessons Learned)

1. Personnel:

a. ITEM: Re-assignments.

DISCUSSION: Present policy dictates that personnel scheduled to rotate are held in the Battalion until they receive reassignments orders. Cases have occurred where personnel are held over their DEROS dates because of lack of orders.

OBSERVATION: If reassignment orders were issued earlier, it would give the personnel section greater flexibility in scheduling port calls and prevent personnel from being held beyond their DEROS. A policy could be established that any personnel not receiving reassignment orders within a certain time before his DEROS is automatically reassigned to a replacement station within CONUS.

b. ITEM: Land Clearing Platoon Personnel Authorization.

DISCUSSION: At present the personnel authorization for the Land Clearing Platoon leaves several necessary positions unfilled. Since the platoon frequently operates as three separate squads, the platoon leader has a major problem in keeping track of the unit property and obtaining needed supplies. The number of dozer operators provided the platoon has proved insufficient. The additional operators (15) provided above the number of dozers are barely adequate. An operator may work a dozer unassisted for 2 - 3 weeks with no relief. This has proved to be very hard on the operators.

OBSERVATION: The section is badly in need of administrative personnel. A second officer is needed to act as "Executive Officer" to handle the many supply and administration problems the platoon encounters. A clerk/typist is needed. A supply sergeant is necessary to keep track of TA equipment and to coordinate with the S-4 of the supported Battalion. Replacement operators should be assigned on a timely basis.

(Page 16)

FOR OFFICIAL USE ONLY

19

FOR OFFICIAL USE ONLY

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

- c. ITEM: Shortages of operators for non-standard equipment.

DISCUSSION: When the 584th Engineer Company (LE) was four 20 ton Euclid Dump Trucks, the eight operators necessary for the trucks had to be taken from other vehicles causing a shortage of operators authorized TO&E equipment.

OBSERVATION: Recommend that when non-standard equipment is used over and above the TO&E authorizations additional operators be authorized to operate the equipment.

2. Operations:

- a. ITEM: Maintenance of interior MSR's during monsoon season.

DISCUSSION: Maintaining roads during the monsoon season is a difficult task. In some situations, nothing short of a major engineer effort is required to insure uninterrupted logistical support to forward areas. On 15 August 67 Company A received the mission of reopening an Infantry Brigade interior road net (MSR) which had become impassable to all traffic. The 600 meter stretch of impassable road was caused by: (1) continuously heavy vehicular traffic and rain; (2) an inadequate drainage system; (3) lack of necessary daily road maintenance; (4) inadequate traffic control; and (5) lack of command interest. This situation necessitated an extensive aerial resupply effort which could have been avoided.

OBSERVATION: If interior MSR's are to remain passable during the monsoon season, detailed planning must be completed prior to the beginning of the rains. Experienced engineers should make a detailed survey of the drainage system, and necessary additions or repairs should be made before the rain starts. Engineers and Military Police must coordinate to determine a workable and effective control plan for the area. Staffs should develop a comprehensive SOP to determine supply priorities under various road conditions. Once the monsoons begin, the traffic control plan along with necessary traffic regulations should be put into effect and rigidly enforced. The responsible engineer unit should insure that continuous road maintenance is performed. Command interest is a must if the aforementioned plans are to be effective.

- b. ITEM: Soft spots under T-17 membrane.

DISCUSSION: All soft spots this unit has encountered during repair of T-17 membrane runways in the monsoon season have been caused by rips and tears in the membrane, allowing water to seep into, and become trapped under the membrane. A quick way was needed to dry or stabilize the soft areas.

(Page 17)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

20

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

OBSERVATION: Portland cement was mixed with the soil in the soft areas and the soil became firm with hydration of the cement. The T-17 membrane was then resealed.

c. ITEM: Drainage

DISCUSSION: Construction of a 177' x 192' aircraft hangers started in the monsoon season. 11,000 cubic yards of soil had to be removed to reach pad elevation. Because of this cut and the problem of runoff, a very effective drainage plan was necessary.

OBSERVATION: A series of terraces with interceptor ditches was used. This drainage system enabled construction to go on inspite of the monsoons. Drainage was always given top priority, and as a result construction progressed smoothly during the entire monsoon season.

d. ITEM: Anchorage of MX-19 Matting.

DISCUSSION: When a CH-47 displaced a portion of MX-19 runway at Poley Djerong, it became apparent that some immediate type of anchorage system would have to be devised. The factory designed anchorage system was not immediately available, and when available had not been effective in the soils found in the Central Highland region of South Vietnam.

OBSERVATION: Two field expedient anchorage systems were tried. The first consisted of short pigtail pickets with a small bearing plate welded to one end of the picket. The picket was screwed into the ground until the bearing plate came down flat on the pannel. It was found that the pigtail pickets had a tendency to work loose. The second method tried utilized standard 36" "U" pickets. Two holes were drilled in the matting at a pannel junction along the runway outer edge. The holes were two inches from the outer edge of the runway and about two inches from the mat junction on either side. The picket was driven into the ground at the mat junction. When the picket was most of the way in, #9 gauge wire was run through the holes in the two pannels and attached to the picket. The wire was then tightened by driving the picket in the ground. Any portion of the picket remaining above the ground was then bent flush with the ground. The decision to utilize the second anchorage system was made after both methods were tried on Poley Djerong Airfield. Anchors were placed on each pannel junction. After several weeks of C-130 traffic, the anchorage was found to be holding with no difficulty.

e. ITEM: Lifting of aircraft hangar rafters.

DISCUSSION: The 177' x 192' aircraft hanger was made by A/S Company. It has an unsupported span of 132'. The erection instructions do

(Page 18)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

not specify a method for lifting the rafters in place. It only states to assemble the rafters together and set them on the columns. Initially, it was tried to assemble the entire rafter on the ground and with 2 each 20 ton cranes with 50' booms raise the complete rafter into place. This method of erection failed because the rafters would bend under their own weight were lifted.

OBSERVATION: The rafters were picked up in two sections. A 20 ton crane was required to hold each section. At the peak of the rafter a third crane was used to bolt the connections. To pick up each half rafter, the two end wall columns were used as spreader bars. This method (see diagram) was very successful and no further difficulties were encountered in erecting the steel.

f. ITEM: Production of crushed rock during the monsoon.

DISCUSSION: Production of rock during the monsoon was greatly hampered by mud clogging the jaws and screens in the crusher.

OBSERVATION: This problem was solved by utilizing 4 air operated sump pumps to pump water from a nearby stream into the beds of the trucks hauling blast rock to the crusher. This removed and softened the mud. The grizzly removed the remaining mud. The lower screens were removed so that all material falling through the grizzly were carried away on waste conveyors.

g. ITEM: Traffic Control.

DISCUSSION: During replacement of two destroyed bridges, a large quantity of vehicles and equipment tended to accumulate at the bridge site. The resulting congestion was a problem, delaying construction progress and passage of convoys through the bypass.

OBSERVATION: A method was used to eliminate the problem, whereby all vehicles and equipment not immediately required were assembled in a secure area approximately 1 mile from the bridge site and held there until required in the construction process.

h. ITEM: Bridge Maintenance.

DISCUSSION: A Class 55 Bailey Bridge (120' Double-Double) collapsed on 17 August 1967 as a VTR (Class 55) was crossing. The exact cause of the bridge failure was unknown, but the mud which had accumulated on the bridge was undoubtedly a contributing factor to the collapse of the bridge.

OBSERVATION: Bridge maintenance must include a vigorous program of keeping mud cleared from the bridge deck during the monsoon season.

(Page 19)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

22

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

i. ITEM: Concrete Transportation

DISCUSSION: During construction of a crusher headwall, quantity of concrete (7 cubic yards) was needed for a footer. The construction site was approximately a 2 hour drive from the nearest batch plant, making transportation of a mix with water impractical. The mix could have been prepared at the site by hand but this method would have been very time consuming.

OBSERVATION: Problem was solved by preparing a "cake mix", consisting of pre-mixed concrete, sand, and aggregate which was transported to the job site dry in 5 ton dump trucks. Water was then added in the truck bed at the job site.

j. ITEM: Road maintenance

DISCUSSION: Route 19W is a road consisting of a lateric soil cap over an old French base which hold up well during the early stages of the recent monsoon season. During the later stages, however, several areas deteriorated rapidly due to tracked vehicles generating non-flowing mud, which rapidly closed the small "V" ditches, flooding the road and further complicating the road maintenance problem.

OBSERVATION: Large 290M ditches must be constructed along the lateric soil roads common in the central highlands if tracked vehicles are to continue to use the roads the year round. In areas where right of way restrictions or constrictions preclude construction of large ditches, crushed rock or a suitable substitute must be used to protect the soil road cap.

k. ITEM: Shortage of compaction equipment during the construction season.

DISCUSSION: The combat engineer battalion, with its attached light equipment company, has the capability of hauling and placing more earth than it can effectively compact to maintain the desired continuity of progression of the haul, placement, and compaction phases of construction. It has been found from experience that the rate of dry weather horizontal earth construction is limited to the pace of effective follow up compaction. The in place haul capability is greatly out of proportion to the compaction capability.

OBSERVATION: One solution to the problem would be to transfer compaction assets from engineer units operation in wet weather areas to engineer units operating in dry weather areas. During the central highland monsoon season (late May - mid October) the 20th Engineer Battalion's compaction equipment wallowed in rivers and pools of mud; the equipment sat idle and inoperative for the better part of FOUR MONTHS. A local solution to the

(Page 20)

FOR OFFICIAL USE ONLY

23

FOR OFFICIAL USE ONLY

EGCA-OP

13 November 1967

SUBJECT: Operations Report - Lessons Learned (ACS CSFOR.65), for Quarterly Period Ending 31 October 1967

problem, within the 18th Engineer Brigade area of operations, would be to transfer construction assets between the 937th Engineer Group (Cbt) (Central Highlands area) and the 45th Engineer Group (Const) (Coastal area). Two engines that have exact opposite climatic construction season, but only separated by 80 miles of road.

1. ITEM: Non availability of cartridges and stud nails for RAMSET guns.

DISCUSSION: It has often been noticed that in the construction of wood frame buildings anchor bolts are used to secure wall section sole plates to concrete pads. From necessity, anchor bolts are consumed in great quantities with total disregard to unit cost and actual suitability. 18" anchor bolts are often cut to fasten a 2" x 4" sole plate to a 4" concrete pad. The RAMSET gun is TO&E to the combat and construction battalions. One of the designed uses of the ramset gun is to fasten wood to concrete with a nail stud. Nails and cartridges, however, are apparently not available or non existent in the supply system. It would be interesting to note the comparative costs of a single case of hardened steel anchor bolt, 18" in length vs a 22 cal cartridge and single nail stud!

3. Training and Organization:

- a. ITEM: Driver education

DISCUSSION: A Bailey Bridge (class 55) on Route 19W collapsed on 3 August 1967 as a VTR pulling an M48A3 tank (total class 193) attempted to cross. Although the bridge was conspicuously posted as a class 55, the VTR driver was unaware of the significance of the sign.

OBSERVATION: Driver education should include emphasis of the significance of bridge classification versus vehicle classification.

- b. ITEM: The M1A1 Anti-Vehicular Mine

DISCUSSION: During past months, this battalion has been directly or indirectly involved in over thirty incidents involving the removal or destruction in place of anti-vehicular mines placed by enemy forces. Slightly over 80% of those mines have been recovered, and without exception, the mine has proven to be of the M1A1 variety, usually with a five to eight pound booster charge of Chicom TNT. In spite of the frequent use of this type of mine in this area, field or technical manuals explaining the design and characteristics of this mine have either not been disseminated or are in very short supply. While this weapon has been out of the Army Supply System for a number of years, it is still necessary that personnel be trained in its characteristics.

(Page 21)

FOR OFFICIAL USE ONLY

24

FOR OFFICIAL USE ONLY

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

OBSERVATION: The M1A1 anti-vehicular mine is still in use by enemy forces in some areas of RVN. It would be of considerable assistance to unit commanders if USARV and USAECV would publish a bulletin which could be used as a guide to train personnel in the design and characteristics of this mine.

4. Intelligence:

a. ITEM: Reconnaissance updating

OBSERVATION: Due to adverse weather conditions and wide variance in heavy traffic density, engineer reconnaissance files were found to need complete updating monthly. This became apparent when over a time period of a few days a road in good condition was found to have become completely impassable. Aerial recons have proved invaluable for this task.

b. ITEM: Reconnaissance Security

OBSERVATION: With requirements for reconnaissance in unsecure areas, it has been found that tracked vehicles are a must for security. A minimum of two fully tracked vehicles (M113) should be assigned to the recon section of each combat battalion.

c. ITEM: Eiffel Bridge classification

OBSERVATION: The Eiffel Bridge classification card, MACV Form 9, 14 Aug 67, is inadequate to classify the many types of Eiffel bridges encountered. Variation in types of steel utilized in construction introduces problems in arriving at exact classification. Best results so far have been obtained utilizing the bridge classification card and a bridge sketch.

5. Logistics: None

6. Maintenance:

a. ITEM: Lubrication periods during the monsoon.

OBSERVATION: Lubrication periods in this area during the monsoon were reduced to 100 - 125 miles after inspections revealed that soupy mud was working into the bearings and mixing with the grease. This was especially critical on the M-151, $\frac{1}{2}$ ton truck, which needed bearings repacked weekly.

b. ITEM: D7E dozer modification.

DISCUSSION: Foot throttle linkage on the tractor, full tracked.

(Page 22)

FOR OFFICIAL USE ONLY

25

FOR OFFICIAL USE ONLY

EGCA-OP

SUBJECT: Operational Report - Lessons Learned (RCJ CEFOR-05), for Quarterly Period Ending 31 October 1967

Catapillar model D7E was found to be binding, causing the foot throttle to be inoperable. A check on all equipment revealed that some of the shafts were not chrome plated allowing them to rust and bind-up.


OBSERVATION: It was found that drilling a hole through linkage, tapping it, and installing a lubrication fitting eliminated this. An equipment improvement request was submitted recommending the alteration or replacement of the shaft with a chrome plated shaft.

c. ITEM: 290M

DISCUSSION: Hydraulic fluid reservoir on tractor wheeled, Clark 290M, was found to have an excessive amount of pressure build up during normal operations. If the cap was removed for "after operational" checks, the operator would receive a hot oil bath.

OBSERVATION: Investigation found that the pressure is a by-product of friction and induced heat causing vapor and fluid expansion and is necessary to insure against pump cavitation. The pressure is therefore vital and the only way to prevent this from causing harm to an operator is to brief every man thoroughly on this procedure of loosening the cap to allow pressure to be released and then removing it to check oil level. An equipment improvement request has been submitted to install a valve in the cap that would allow pressure to be released by the operator prior to removing the cap.

FOR THE COMMANDER:



WILLIAM E. KARKREKA
1LT, CG
Adjutant

4 Incl

1-Spreader Bar Design for
Lifting Large Beams

2-MX-39 Anchorage

DISTRIBUTION:

2-CG, USAP, ATTN: GPOP-MH

3-CG, USARV, ATTN: AVC-DH

6-CG, USAECV (P), ATTN: AVCC-BC

5-CO, 937th Engr Gp (Cbt)

1-File

15-Reference

23

FOR OFFICIAL USE ONLY

27

FOR OFFICIAL USE ONLY

EGC-CO (13 Nov 67)

1st Ind

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly
Period Ending 31 October 1967

DEPARTMENT OF THE ARMY, HEADQUARTERS, 937TH ENGINEER GROUP (COMBAT), APO
96318, 21 November 1967

TO: Commanding General, 18th Engineer Brigade, ATTN: AVBC-C; APO 96377

1. The subject report, submitted by the 20th Engineer Battalion
(Combat), has been reviewed and is considered an accurate report of organ-
izational activities.

2. I concur in the observations and recommendation of the Battalion
Commander.



R. C. MARSHALL
Colonel, CE
Commanding

24

FOR OFFICIAL USE ONLY

AVCC-C (13 Nov 67)

2nd Ind

CPT Storat/Jah/DBT-163

28

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for
Quarterly Period Ending 31 October 1967

Headquarters, 18th Engineer Brigade, APO 96377

28 NOV 1967

TO: Commanding General, U.S. Army Engineer Command, Vietnam (Prov),
ATTN: AVCC-P&O, APO 96375

1. This headquarters has reviewed the report submitted by the 20th Engineer Battalion (C) (A), as indorsed, and considers it an accurate description of the unit's activities and accomplishments during the reporting period ending 31 October 1967.

2. Concur with the observations and recommendations of the Battalion Commander, and the Group Commander's Indorsement with the following comments added:

a. Reference Section II, Part I, para 1c. Standardized MTOE 5-114D submitted to USAECV(P) on 20 October 1967 recommended additional personnel to provide for 2 shift operations of Euclid Dump Trucks.

b. Reference Section II, Part I, para 2k. The coastal monsoon season (4 months) does not prevent horizontal work during the entire period. There are days and even weeks when much work can be accomplished. Although temporary lateral transfer of specific pieces of compaction equipment may be directed by this headquarters based on overall work priorities, it is felt that transfer of all compaction assets based on monsoon seasons is not desirable. This headquarters does, however, concur with the Battalion Commander's comment concerning haul capability being greater than compaction capability in the combat battalion. Standardized MTOE 5-36G submitted to USAECV(P) on 20 Oct 67 requested additional towed compaction equipment for a combat engineer battalion.


HAROLD J. ST. CLAIR
Colonel, CE
Deputy Commander

25

29

FOR OFFICIAL USE ONLY

AVCC-P&O (13 Nov 67) 3d Ind
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly
Period Ending 31 October 1967

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND
VIETNAM (PROV), APO 96491

31 DEC 1967

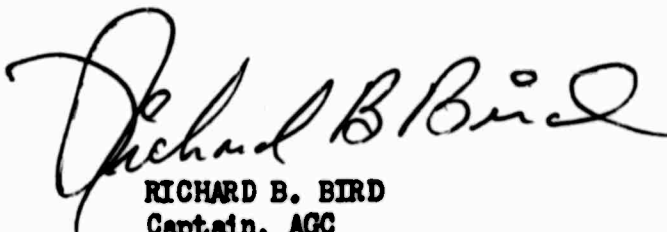
TO: Commanding General, United States Army Vietnam, ATTN: AVHGC-DH,
APO 96375

The subject report, submitted by the 20th Engineer Battalion, has been reviewed by this headquarters and is considered adequate.

a. Reference: Sect II, Part 3, para 6, page 21. Item concerning the M1A1 Antivehicular Mine. Information available to this headquarters indicates frequent use of the Chicom Antitank Mine similar in appearance to the World War II M1A1 antivehicular mine to include US type markings.

b. Major commanders have been advised of the existence and characteristics of these mines.

FOR THE COMMANDER:



RICHARD B. BIRD
Captain, AGC
Assistant Adjutant General

Cys Furn:
CG, 18th Engr Bde
CO, 937th Engr Gp
CO, 20th Engr Bn

THIS PROTECTIVE MARKING
IS CANCELED ON 1 JAN 70

FOR OFFICIAL USE ONLY

30

FOR OFFICIAL USE ONLY

AVHGC-DST (13 Nov 67)

4th Ind

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly
Period Ending 31 October 1967

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375 28 JAN 1968

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 31 October 1967 from Headquarters, 20th Engineer Battalion (Combat) (A22A) as indorsed.

2. Pertinent comments follow:

a. Reference item concerning reassignments, page 16, paragraph 1: Nonconcur. It is recognized that the late receipt or non-receipt of assignments prior to DEROS causes personal inconveniences. This headquarters makes every possible effort to obtain a firm unit of assignment for each individual departing this command. The existing CONUS reassignment policies of this headquarters permit the return of personnel to a CONUS Returnee/Reassignment Station when it is not possible to obtain an assignment before the individual's DEROS. Personnel are not to be held in this command beyond their DEROS.

(1) This headquarters has initiated procedures to provide each major commander with machine prepared assignment instruction listings or sequentially numbered assignment instruction letters for individuals assigned to his command. Each commander is also furnished a listing of those individuals for whom assignment instructions have not been received 30-60 days prior to the beginning of DEROS month for verification and return. These listings provide for closer control of these personnel and identify individuals on whom special attention should be focused by DA, this headquarters and the major commander. Additionally, a copy of assignment instruction machine listings are forwarded directly to battalion level from this headquarters to expedite notification to the individual.

(2) Further improvements of assignment procedures can be made by Headquarters, Department of the Army, Office of Personnel Operations, in providing more timely notification to this headquarters of individuals assignments. All assignments should be received at this headquarters not later than 30 days before rotation month.

(3) Special attention by the 20th Engineer Battalion and the Engineer Command to insure that eligible personnel are reported for reassignment at the proper time will also greatly assist in solving this problem.

FOR OFFICIAL USE ONLY

31

FOR OFFICIAL USE ONLY

AVHGC-DST (13 Nov 67)

4th Ind

28 JAN 1968

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

b. Reference item concerning nonavailability of cartridges and stud nails for RAMSET guns, page 21, paragraph 1. The actions listed below, which were previously taken, will improve the availability of subject items.

(1) 1st Logistical Command has included the $\frac{1}{2}$ " diameter studs as an ASL item and stockage will be dependent on usage. The studs are on requisition and the availability date is unknown.

(2) .22 caliber cartridges are on requisition for the RAMSET gun and are presently due in-country.

c. Reference item concerning driver education, page 21, paragraph 3a. The commander's discussion and observation of this item has been examined. This office monitors the safety aspects of USARV driver training programs, however, the actual conduct of driver training and follow-up supervision is the responsibility of the commander.

3. A copy of this indorsement will be furnished to the reporting unit through channels.

FOR THE COMMANDER:

Philip J. Getchell
JOHN V. GETCHELL
Captain, AGC
Assistant Adjutant General

Copy Furnished:

HQ, 20th Engr Bn (Combat)
HQ, US Army Engr Comd

FOR OFFICIAL USE ONLY

GPOP-DT(13 Nov 67)

5th Ind

SUBJECT: Operational Report for the Quarterly Period Ending 31 October
1967 from HQ, 20th Engr Bn (UIC: WAZ2AA) (RCS CSFOR-65)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 16 FEB 1968

TO: Assistant Chief of Staff for Force Development, Department of the
Army, Washington, D. C. 20310

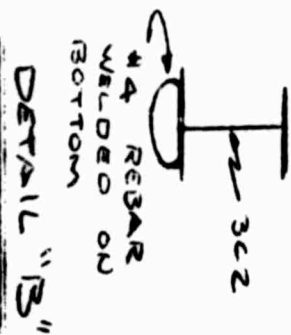
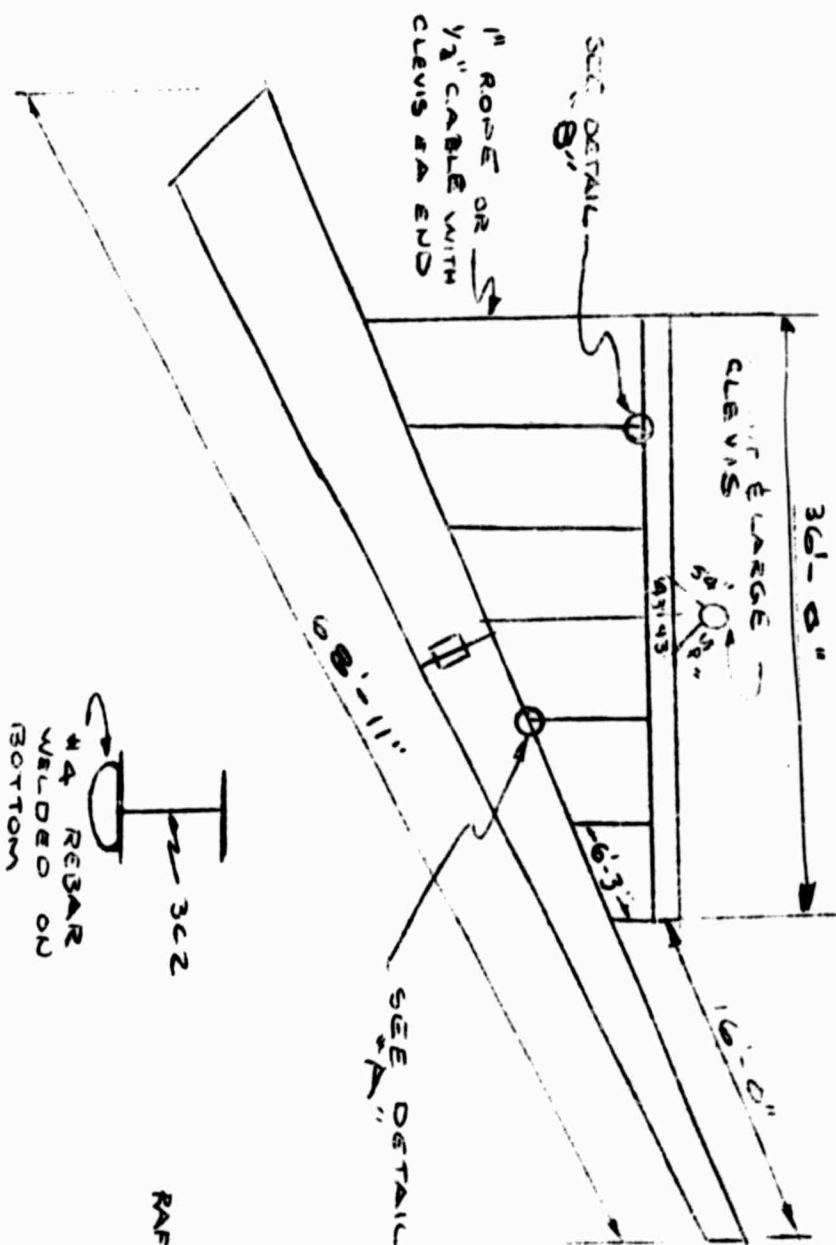
This headquarters has evaluated subject report and forwarding
indorsements and concurs in the report as indorsed.

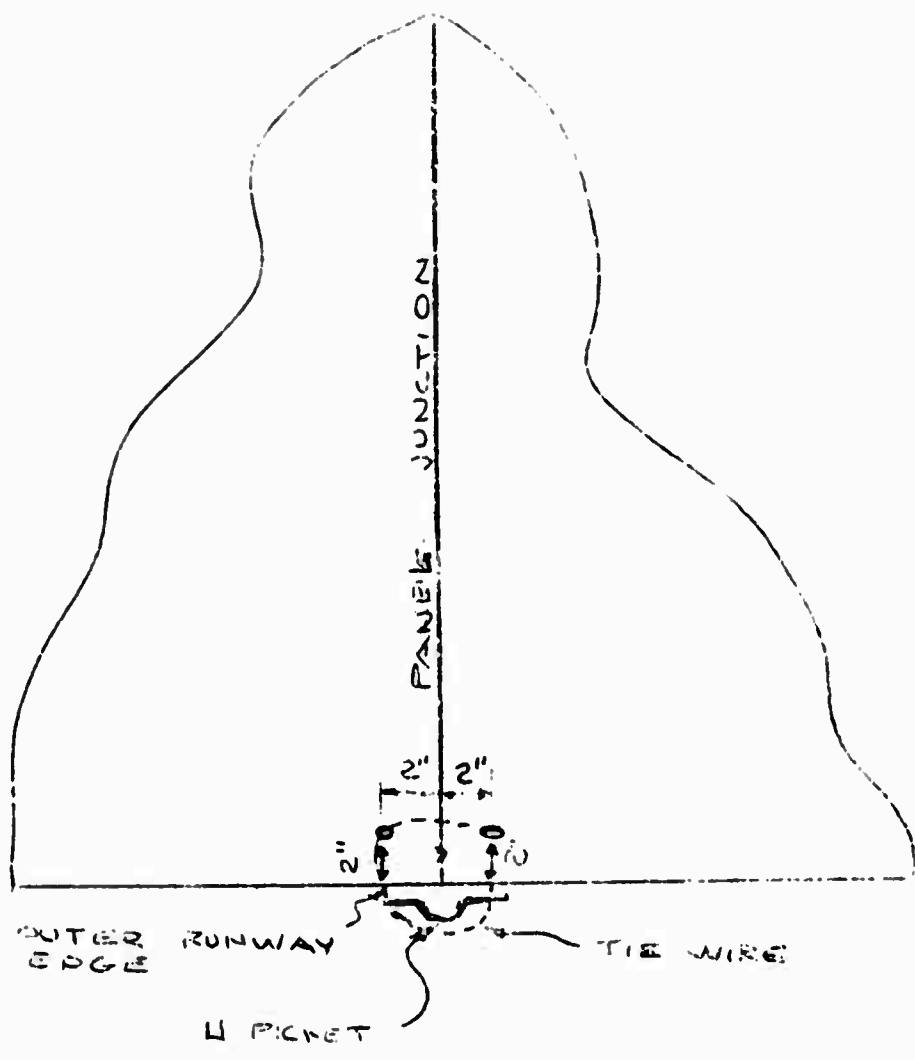
FOR THE COMMANDER IN CHIEF:



K. F. OSBOURN
MAJ, AGC
Asst AG

Rafter Lifting Method





MX-19 Anchorage

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

| | | | |
|---|--|---|-----------------|
| 1. ORIGINATING ACTIVITY (Corporate author) OACSFOR, DA, Washington, D.C. 20310 | | 2a. REPORT SECURITY CLASSIFICATION For Official Use Only | |
| | | 2b. GROUP Cancelled 1 Jan 1970 | |
| 3. REPORT TITLE Operational Report - Lessons Learned, Headquarters, 20th Engineer Battalion (Cbt) | | | |
| 4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Experiences of unit engaged in counterinsurgency operations. 1 Aug - 31 Oct 1967 | | | |
| 5. AUTHOR(S) (First name, middle initial, last name) CO, 20th Engineer Battalion | | | |
| 6. REPORT DATE 13 November 1967 | | 7a. TOTAL NO. OF PAGES 32 | 7b. NO. OF REFS |
| 8a. CONTRACT OR GRANT NO. | | 8b. ORIGINATOR'S REPORT NUMBER(S) 674123 | |
| b. PROJECT NO. N/A | | 9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report) | |
| c. | | | |
| d. | | | |
| 10. DISTRIBUTION STATEMENT | | | |
| 11. SUPPLEMENTARY NOTES N/A | | 12. SPONSORING MILITARY ACTIVITY OACSFOR, DA, Washington, D.C. 20310 | |
| 13. ABSTRACT | | | |

32

DD FORM 1473
1 NOV 65

UNCLASSIFIED

Security Classification